### PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHOR	aity .	TNS,				
То:			PCT PCT			
	-	,	RITTEN OPINION OF THE IONAL SEARCHING AUTHORITY			
			(PCT Rule 43bis.1)			
		Date of mailing (day/month/year)	See form PCT/ISA/210			
Applicant's or agent's file reference P145066 ÜS/ML/CS		FOR FURTHER ACTION See paragraph 2 below				
International application No. PCT/CH2005/000155	International filing date (	day/month/year)	Priority date (day/month/year) 15.03.2004			
International Patent Classification (IPC) or bot F24J2/05	h national classification an	d IPC				
Applicant ÜSTÜN, Orhan						
This opinion contains indications relations	ating to the following items	<u> </u>				
Box No. I Basis of the	e opinion					
Box No. II Priority						
Box No. III Non-establ	ishment of opinion with re	gard to novelty, invent	ive step and industrial applicability			
· · · · · · · · · · · · · · · · · · ·	ity of invention					
Box No. V Reasoned s	statement under Rule 43bis. by; citations and explanation	. l(a)(i) with regard to a ns supporting such stat	novelty, inventive step or industrial tement			
Box No. VI Certain do	cuments cited		•			
Box No. VII Certain def	fects in the international ap	plication				
Box No. VIII Certain ob	servations on the internatio	nal application				
International Preliminary Examining than this one to be the IPEA and the this International Searching Authorit  If this onlinion is, as provided above	g Authority ("IPFA") except e chosen IPEA has notified by will not be so considered e, considered to be a writte opriate, with amendments, on of 22 months from the pr	of that this does not ap if the International Bur in opinion of the IPE/ before the expiration	Il be considered to be a written opinion of the ply where the applicant chooses an Authority other eau under Rule 66.1bis(b) that written opinions of A, the applicant is invited to submit to the IPEA at of 3 months from the date of mailing of Form expires later.			
3. For further details, see notes to Forn	PCT/ISA/220.					
Name and mailing address of the ISA/EP		Authorized officer				
Facsimile No.		Telephone No.				

Вох	No. I		Basis of this c	pinion	<u> </u>							
, 1.	With	regard , unless	to the language	e, this opinion ated under th	n has been es is item.	tablished on th	e basis of t	ne internatio	nal applica	tion in the lan	guage in which	it was
		This o	pinion has been	established o	n the basis o	t a translation	from the ori	ginal langua	ge into the	following lang	puage	
					, which is	he language of	f a translatio	on furnished	for the pur	poses of intern	ational scarch (	under
		Rule	12.3 and 23.1(b)	).								
2.			i to any nucleo nis opinion has t				closed in th	ne internatio	nal applica	ation and nece	essary to the c	laimed
	a.	type o	f material									
			a sequence listii	ı <b>g</b>								
			table(s) related	o the sequence	ce listing					-		
	b.	forma	t of material									
			in written forma	ıt				•				
			in computer rea	dable form								
	c.	time o	of filing/turnishi	ng								
1		П	contained in the	international	application	as filed.	_					
		$\sqcap$	filed together w	ith the interna	ational applic	ation in compu	iter readable	e form.				
ł		$\Box$	furnished subse	quently to thi	s Authority f	or the purposes	s of search.					
	_	_										<b></b>
3.	Ш	furnis	dition, in the ca shed, the require or does not go b	d statements	that the infor	mation in the	subsequent	or additional	d/or table( copies is:	s) relating the identical to the	reto has been to t in the applica	nied or ation as
4.	Λđđ	litional	comments:									
1												
								•				
					-							
												,
1												

Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial a citations and explanations supporting such statement	pplicability;
1. Statement		
Novelty	y(N) Claims 1-8	YES
	Claims	NO NO
Invention	ive step (IS) Claims	YES
	Claims 1-8	NO
Industri	rial applicability (IA) Claims 1-8	ivee
nausii	rial applicability (IA) Claims 1-8  Claims	YES NO
2. Citations a	and explanations:	
1.	The following search report citations (D) are	
	specified in this opinion; the same numbering	will
	be used throughout the procedure:	
	D1: US-A-4 440 156	
	D2: US-A-4 186 724 (likewise cited in the	
	application)	
•	D3: US-A-4 259 946	
·2.	PCT Article 33(2)	
	The common technical features in claim 1 are r	rot
	indicated in any of the International Search	
	Report citations. The subject matter of claim	1
	and its dependent claims 2 - 8 is therefore no	ovel.
3.	PCT Article 33(3)	
	The present application does not satisfy the	
	requirements of PCT Article 33(1), because the	<b>&gt;</b>
	subject matter of claims 1 - 8 does not involve	e an
	inventive step (PCT Article 33(3)).	
	·	
3.1	Claim 1	
	D1 is considered to be the prior art closest t	.0

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

the subject matter of claim 1. Said document discloses (the references in parentheses relate to D1):

Heat exchanger having a vacuum tube (1) with an outer wall, having an inner tube (4) which accommodates fluid and the outer wall of which is arranged to extend in a parallel manner and inside a wall (2) of the vacuum tube (1), at least one heat-conducting member (7, 8) joining said wall (2) of the vacuum tube (1) to the fluid-guiding tube system (4), a means (3) which collects and concentrates solar energy being provided on said. wall (2) on the side of the vacuum tube (1) further from the heat-conducting member (7, 8) (column 2, lines 17 - 19), wherein the at least one heat-conducting member (7, 8), each under pretension, presses against said wall (2) of the vacuum tube (1) and against the fluid-guiding tube system (4) (column 2, lines 53 - 58; and also column 3, lines 11 - 23).

A heat exchanger of this kind is likewise known from D3.

The subject matter of claim 1 differs from this known heat exchanger in that the inner tube is arranged concentrically with a wall of the vacuum tube (4). This feature cannot, however, constitute an inventive step. On the contrary, the concentric arrangement of the inner tube is one of many obvious heat exchanger design possibilities from which a person skilled in the art would choose

International application No.
PCT/CH2005/000155

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

according to the circumstances in order to solve the problem of interest, without thereby being inventive (see, for example, D2). The subject matter of claim 1 does not therefore involve an inventive step.

#### 3.2 Claims 2 - 8

Dependent claims 2 - 8 contain no features which meet the requirements of the PCT with regard to inventive step. These claims concern only minor structural modifications of the heat exchanger defined in claim 1, of the kind that a person skilled in the art routinely makes on the basis of familiar considerations, especially since the resulting advantages are readily foreseeable (see, for example, D2 for claim 8).

#### 4. PCT Article 33(4)

The subject matter of claims 1 - 8 is considered to be industrially applicable (PCT Article 33(4)).

International application No.
PCT/CH2005/000155

Box No. VII

Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

- 5.1 Contrary to the requirements of PCT
  Rule 5.1(a)(ii) neither the relevant prior art
  disclosed in documents D1 and D3 nor these
  documents have been indicated in the description.
- Pursuant to PCT Rule 11.13(m) the same feature must be denoted by the same reference sign throughout the application. This requirement has not been satisfied in the case of, for example, the use of reference signs 4 and 8 (outer wall, tube system).

Form PCT/ISA/237 (Box No. VII) (January 2004)

10592982

PATENT COOPERATION TREATY

From th		IAL SEARCHIN	IG AUTHOR	ITY .		RANSI
То:						PCT PCT
						RITTEN OPINION OF THE IONAL SEARCHING AUTHORITY
						(PCT Rule 43bis.1)
					Date of mailing (day/month/year)	See form PCT/ISA/210
		gent's file referenc			FOR FURTHER A	ACTION
P14	1506	ÜS/ML/	CS			See paragraph 2 below
	-	plication No. 2005/000:	155	International filing date (	day/month/year)	Priority date (day/month/year) 15.03.2004
Internat	tional Pa	tent Classification	(IPC) or both	national classification an	dIPC	<u> </u>
F24	J2/0	)5				
		•				·
Applica ÜS I	ini TÜN,	Orhan		:		
1.	This c	pinion contains ir	ndications rela	ting to the following items		
	$\boxtimes$	Box No. I	Basis of the	opinion		
	$\sqcup$	Box No. II	Priority			
		Box No. III	Non-establi:	shment of opinion with reg	gard to novelty, invent	ivè step and industrial applicability
		Box No. IV	Lack of unit	y of invention		
	$\overline{\boxtimes}$	Box No. V	Reasoned st applicability	atement under Rule 43bis.  7; citations and explanation	.1(a)(i) with regard to a	novelty, inventive step or industrial lement
	Ш	Box No. VI	Certain doc	uments cited		
	$\boxtimes$	Box No. VII	Certain defe	ects in the international app	plication	
		Box No. VIII	Certain obs	ervations on the internation	nal application	•
·2.	FUR'	THER ACTION		·		
	Interr than t	ational Prelimina his one to be the	ry Examining IPEA and the	Authority ("IPEA") excen	t that this does not app I the International Bur	Il be considered to be a written opinion of the ply where the applicant chooses an Authority other eau under Rule 66.1bis(b) that written opinions of the constant of the constant opinions of the consideration opinion of the constant opinion opinio
	If this writte	opinion is, as pr an reply together,	ovided above, where approp	considered to be a writte	n opinion of the IPEA before the expiration	A, the applicant is invited to submit to the IPEA of 3 months from the date of mailing of Form expires later.
		rther options, see				
3.	For fu	orther details, see	notes to Form	PCT/ISA/220.		
Name	and mail	ing address of the	IS A/ED		Authorized officer	
iname :	anu maii	mg address of the	. IOAVET		Tunonza onice	
						•
Facsim	ile No				Telephone No.	

Form PCT/ISA/237 (cover sheet) (January 2004)

Box No	. I Busis of this opinion	_
1. W	ith regard to the language, this opinion has been established on the basis of the international application in the language in which it was ed, unless otherwise indicated under this item.	s
	This opinion has been established on the basis of a translation from the original language into the following language	
	, which is the language of a translation furnished for the purposes of international search (under	
	Rule 12.3 and 23.1(b)).	,
	ith regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed vention, this opinion has been established on the basis of:	1
а	type of material	
	a sequence listing	
	table(s) related to the sequence listing	
t	format of material	
	in written format	
	in computer readable form	
(	time of filing/furnishing	
	contained in the international application as filed.	
	filed together with the international application in computer readable form.	
	furnished subsequently to this Authority for the purposes of search.	
3.	In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed of furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application a filed or does not go beyond the application as filed, as appropriate, were furnished.	s
4. , A	dditional comments:	
·		
	·	
		_

Box No. V  Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement					
l,	Statement				
	Novelty (	(N) Claims 1-8	YES		
		Claims	_ NO		
	Inventive	step (IS) Claims	YES		
		Claims 1-8	NO		
	Industrial	d applicability (IA) Claims 1-8	YES		
	111000501	Claims	NO		
	<del></del> ;				
2.	Citations and	d explanations:			
	1.	The following search report citations (D) are			
		specified in this opinion; the same numbering will			
		be used throughout the procedure:	•		
			•		
		D1: US-A-4 440 156			
		D2: US-A-4 186 724 (likewise cited in the			
		application)			
		D3: US-A-4 259 946			
	_				
	2.	PCT Article 33(2)			
	•	The common technical features in claim 1 are not			
		indicated in any of the International Search	•		
		Report citations. The subject matter of claim 1			
		and its dependent claims $2-8$ is therefore novel.			
	3.	PCT Article 33(3)			
		The present application does not satisfy the			
		requirements of PCT Article 33(1), because the			
		subject matter of claims 1 - 8 does not involve an			
		inventive step (PCT Article 33(3)).			
	3.1	Claim 1			
		D1 is considered to be the prior art closest to			

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

the subject matter of claim 1. Said document discloses (the references in parentheses relate to D1):

Heat exchanger having a vacuum tube (1) with an outer wall, having an inner tube (4) which accommodates fluid and the outer wall of which is arranged to extend in a parallel manner and inside a wall (2) of the vacuum tube (1), at least one heat-conducting member (7, 8) joining said wall (2) of the vacuum tube (1) to the fluid-guiding tube system (4), a means (3) which collects and concentrates solar energy being provided on said wall (2) on the side of the vacuum tube (1) further from the heat-conducting member (7, 8) (column 2, lines 17 - 19), wherein the at least one heat-conducting member (7, 8), each under pretension, presses against said wall (2) of the vacuum tube (1) and against the fluid-guiding tube system (4) (column 2, lines 53 - 58; and also column 3, lines 11 - 23).

A heat exchanger of this kind is likewise known from D3.

The subject matter of claim 1 differs from this known heat exchanger in that the inner tube is arranged concentrically with a wall of the vacuum tube (4). This feature cannot, however, constitute an inventive step. On the contrary, the concentric arrangement of the inner tube is one of many obvious heat exchanger design possibilities from which a person skilled in the art would choose

International application No.
PCT/CH2005/000155

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

according to the circumstances in order to solve the problem of interest, without thereby being inventive (see, for example, D2). The subject matter of claim 1 does not therefore involve an inventive step.

#### 3.2 Claims 2 - 8

Dependent claims 2 - 8 contain no features which meet the requirements of the PCT with regard to inventive step. These claims concern only minor structural modifications of the heat exchanger defined in claim 1, of the kind that a person skilled in the art routinely makes on the basis of familiar considerations, especially since the resulting advantages are readily foreseeable (see, for example, D2 for claim 8).

#### 4. PCT Article 33(4)

The subject matter of claims 1 - 8 is considered to be industrially applicable (PCT Article 33(4)).

International application No.
PCT/CH2005/000155

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

- 5.1 Contrary to the requirements of PCT
  Rule 5.1(a)(ii) neither the relevant prior art
  disclosed in documents D1 and D3 nor these
  documents have been indicated in the description.
- Pursuant to PCT Rule 11.13(m) the same feature must be denoted by the same reference sign throughout the application. This requirement has not been satisfied in the case of, for example, the use of reference signs 4 and 8 (outer wall, tube system).